

## Using Dictionary Tables: An Introduction to SAS Metadata

Frank DiIorio, CodeCrafters Inc., Chapel Hill NC

### Abstract

SAS system metadata (aka “dictionary tables”) can be used in an almost limitless number and range of applications. Despite being in Base SAS software since Version 6, references to them in conference proceedings and other sources is curiously sparse. Among the goals of this workshop is to raise awareness of this fertile (and free!) data source and have attendees begin to consider how to use the tables in their everyday programming. The more tangible objectives are:

- Describe the nature and contents of the tables
- Show how they are maintained
- Demonstrate their use in some simple, generalizable applications

One of the most common uses of the metadata is in general-purpose utility programs. Since these programs are best written as macros and the tables are best accessed through PROC SQL, attendees should have a working knowledge of SQL and the macro language.

### Organization

The planned organization of the workshop follows.

- Brief discussion of what metadata is and how SAS implements it
- “How cool is this” Open an interactive SAS session and use PRINT or similar on SASHELP.VTABLE. No LIBNAME definition is required.
- But how do we know what’s in the tables? Discuss:
  - Documentation. Online Help, other.
  - Using SAS Explorer
  - Programmatically.
- Using the data:
  - SQL. Tables and views FCD: show a simple SELECT from one of the tables
  - other. Use only Views
- How are the data maintained? Automatically, by SAS. Example using COLUMNS table.
- Review the contents of some of the more popular tables.
  - TABLES
  - COLUMNS
  - OPTIONS
  - MACROS
  - EXTFILES
- Develop and refine some simple applications using the macro language. Throughout, emphasize techniques required for good macro design:
  - Macro variable lister. Why: %put \_global\_ output is all but unreadable. How: write macro to organize the listing of variables and values and make it presentable.
  - Data set lister. Why: we want to print “n” observations from each data set in a library. How: write a macro to collect data set names, then print first “n” observations.
  - Variable checker. Why: we want to know if variable “x” exists in data set “y”. Based on its presence or absence, run different macros. How: write a macro to test for the presence of the variable, issuing a return code that will be used by the calling macro.
- Closing comments. Need for understanding of the tables *and* the macro language if you are to use the tables effectively.

## Contact

The author can be contacted at [frank@CodeCraftersInc.com](mailto:frank@CodeCraftersInc.com). Visit [www.CodeCraftersInc.com](http://www.CodeCraftersInc.com) for papers about the dictionary tables, program design, debugging, “and much, much more.” The Web site also has copies of the very first SAS *Communications* (from December, 1973!) and other trivial-but-fun stuff.